10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CD141 Mouse mAb

Catalog # AP99165

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P07204
Other Accession	P07204
Reactivity	Rat, Human, Mouse
Host	Mouse
Clonality	Monoclonal
Calculated MW	60329
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CD141
Isotype	IgG2b,k
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 C-type lectin domain. Contains 6 EGF-like domains.
Post-translational modifications	N-glycosylated. The iron and 2-oxoglutarate dependent 3-hydroxylation of aspartate and asparagine is (R) stereospecific within EGF domains.
DISEASE	Defects in THBD are the cause of thrombophilia due to thrombomodulin defect (THPH12) [MIM:614486]. A hemostatic disorder characterized by a tendency to thrombosis. Defects in THBD are a cause of susceptibility to hemolytic uremic syndrome atypical type 6 (AHUS6) [MIM:612926]. An atypical form of hemolytic uremic syndrome. It is a complex genetic disease characterized by microangiopathic hemolytic anemia, thrombocytopenia, renal failure and absence of episodes of enterocolitis and diarrhea. In contrast to typical hemolytic uremic syndrome, atypical forms have a poorer prognosis, with higher death rates and frequent progression to end-stage renal disease. Note=Susceptibility to the development of atypical hemolytic uremic syndrome can be conferred by mutations in various components of or regulatory factors in the complement cascade system. Other genes may play a role in modifying the phenotype.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Thrombomodulin, TM is cell surface glycoprotein; plays an important role in the protein C anticoagulant pathway. It located in a vein, artery and capillary endothelial cells on the surface of plasma membrane protein. It is generally believed: TM vascular endothelial injury is an important parameter is the thrombin receptor, known in a variety of normal human tissues, can also be expressed in many tumors, TM may be similar to the E-cadherin,and is a lectin Like activity of a new class of members of the cell adhesion molecules. CD141/Thrombomodulin is an exclusively endothelial cell surface glycoprotein that forms a 1:1 complex with thrombin. Binding of thrombin to this high-affinity receptor alters its specificity toward several substrates. The complex activates protein C approximately 1000 times faster than thrombin alone. Activated protein C degrades clotting factors V and VIII; thus, thrombomodulin converts thrombin into a physiologic anticoagulant. Thrombomodulin is also found in the circulatory and urinary systems, the physiologic significance of this is obscure.

Additional Information

Gene ID	7056
Other Names	AHUS6; BDCA-3; BDCA3; CD141; THPH12; THRM; TM; TRBM_HUMAN; THBD; Fetomodulin; TRBM_MOUSE; thrombomodulin
Dilution	IHC-P=1:50-200,IHC-F=1:50-200,IF=1:50-200
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	THBD
Synonyms	THRM
Function	Endothelial cell receptor that plays a critical role in regulating several physiological processes including hemostasis, coagulation, fibrinolysis, inflammation, and angiogenesis (PubMed:10761923). Acts as a cofactor for thrombin activation of protein C/PROC on the surface of vascular endothelial cells leading to initiation of the activated protein C anticoagulant pathway (PubMed:29323190, PubMed:33836597, PubMed:9395524). Also accelerates the activation of the plasma carboxypeptidase B2/CPB2, which catalyzes removal of C-terminal basic amino acids from its substrates including kinins or anaphylatoxins leading to fibrinolysis inhibition (PubMed:26663133). Plays critical protective roles in changing the cleavage specificity of protease-activated receptor 1/PAR1, inhibiting endothelial cell permeability and inflammation (By similarity). Suppresses inflammation distinctly from its anticoagulant cofactor activity by sequestering HMGB1 thereby preventing it from engaging cellular receptors such as RAGE and contributing to the inflammatory response (PubMed:15841214).
Cellular Location	Membrane; Single-pass type I membrane protein.
Tissue Location	Endothelial cells are unique in synthesizing thrombomodulin

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